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Risk Reduction and Environmental Stewardship—Remediation Services

Desk Instruction

for Review of Sample Field Data

Revision Log

Revision No.	*Effective Date*	*Prepared By*	*Description of Changes*	*Affected Pages*
0	08/07/01	Felicia M. Aguilar	New Desk Instruction	All
1	4/30/04	Felicia M. Aguilar	Updated description of process	All

Review of Sample Field Data

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Review of Sample Field Data

1.0 PURPOSE

This Desk Instruction (DI) states the responsibilities and describes the process for performing checks involved in reviewing Look Up Table (LUT) values and associated QC codes for datasets on the RRES-RS Project.

2.0 SCOPE

This DI describes the sample review process for legacy data sets and event data sets. The review requires the field documentation generated during the field activity.

3.0 REFERENCES

ER Project personnel should become familiar with the contents of the most current version of the following documents, when appropriate, located at http://erinternal.lanl.gov/home_links/Library_proc.htm to properly implement this DI.

- SOP-06.01, Purging and Sampling Methods for Single Completion Wells
- SOP-06.02, Field Analytical Measurements of Groundwater
- SOP-06.03, Sampling for Volatile Organic Compounds in Groundwater
- SOP-06.09, Spade and Scoop Method for Collection of Soil Samples.
- SOP-06.10, Hand Auger and Thin-Wall Tube Sampler
- SOP-06.13, Surface Water Sampling.
- SOP-06.15, Coliwasa Sampler for Liquids and Slurries SOP-6.19, Weighted Bottle Sampler for Liquids and Slurries in Tanks.
- SOP-06.24, Sample Collection from Split-Spoon Samplers and Shelby Tube Samplers
- SOP-06.26, Core Barrel Sampling for Subsurface Earth Materials.
- SOP-06.28, Chip Sampling of Porous Surfaces.
- SOP-06.29, Single-Stage Sampling for Surface Water Run-Off.
- SOP-06.31, Sampling of Subatmospheric Air.
- SOP-06.32, Multi-Level Groundwater Sampling of Monitoring Wells - Westbay MP System.

4.0 DEFINITIONS

Note: A glossary of definitions can be located on the internal homepage at http://erinternal.lanl.gov.

- Borehole Log — A borehole log is used to document field logging of borehole materials (soil, core, cuttings, rubble, etc.) during drilling projects.
- Daily Activity Log (or field notebook) — Field Notebooks or Daily Activity Log forms must be used by field personnel to record all pertinent field data, including detailed summaries of information pertaining to the field investigation and additional field data.
- ERDB_PROD — The transactional database in which samples are tracked from the beginning of a sampling event, through field QA, and ending with validation of chemical results.
- Event Data — Sampling event created and managed in the Sample Tracking Application.
- Field Notebook —A field notebook is generally used to record activities performed in the field or to compile field data.
- GET_SAMPLES — Microsoft-Access database application query, offering a filtered subset of SAMPLE_DATA_REVIEW, where all records displayed require updating.
- Legacy Data— Samples collected prior to implementation of the Sample Tracking Application.
- Look Up Table (LUT) — A list of allowable values for a field that describes certain characteristics of a sample.
- Record_Flag — A field in SAMPLE_DATA_REVIEW table used to indicate the status of a reviewed sample.
- Sample Collection Log —A form that must be completed for each sample collected. It is used to record all information pertinent to collection of sample media.
- SAMPLE_DATA_REVIEW — MS-Access table, located on a shared network drive, where Field QA team members enter updates to be made to tables within ERDB_PROD.
- Sample Tracking Application — A web-based program that assists in creating and managing sample records

5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in Section 6.0 of this desk instruction.

5.1 Data Steward / Data Specialist

5.2 Supervisor

6.0 PROCEDURE

Data Stewards/Data Specialists follow the process below. Data Stewards/data Specialists should be assisted in their training by previously trained personnel.

Note: ER Project personnel may produce paper copies of this desk instruction printed from the controlled-document electronic file located at: http://erinternal.lanl.gov/home_links/Library_proc.htm. However, it is their responsibility to ensure that they utilize and train to the current version of this procedure. The author may be contacted if text is unclear.

6.1 Event Data Set Review

For Events created in the Sample Tracking Application go to http://erinternal.lanl.gov/smo/.

Note: Obtain permissions from the Network Administrator for access to the Sample Tracking Application.

6.1.1 Receive event paperwork requiring review from the Sample Management Office.

6.1.2 Go to Events>Event ID (enter Id)>Field QA Samples in the Sample Tracking Application.

6.1.3 Review field information for agreement between the Sample Collection Log and Field QA Samples information present in the Sample Tracking Application.

6.1.4 Contact a field team member for corrections to Sample Collection Log fields as necessary.

6.1.5 Field team members must submit revised Sample Collection Logs to the Sample Management Office.

Note: Field information guidance found below the Legacy review may also apply for Event review and used as a reference.

6.1.6 Update information by highlighting sample>Manage>Update>enter information>Save.

6.1.7 After all information has been confirmed/updated, a second reviewer should verify the changes and move the event to field complete.

6.2 Legacy Data Set Review

6.2.1 Use the Access database form “GET_SAMPLES” for updates to Legacy sample information.

6.2.2 For composite samples and samples not listed in the Sample_ Data_ Review table, prepare an Excel spreadsheet with the fields updated and submit to the database administrator.

6.2.3 Confirm samples requiring review are located in Sample_Data_Review_or ERDB_PROD.

Note: The GET_SAMPLES form lists the current allowable LUT values and associated QC codes. In addition to the listed current values, empty fields are available for updated LUT values and updated QC codes. The form requires QC code update if the LUT value is updated.

6.2.4 Retrieve available information for sample(s) under review.

6.2.4.1 Retrieve the Sample Collection Log first as it is usually the most valuable documentation.

6.2.4.2 If not available or if other information is needed, search for any available published reports containing pertinent sample information.

6.2.4.3 Consult the PRS database for location description and field activities performed; the chain of custody can also be of assistance.

6.2.5 Enter the appropriate Record Flag code for type of review conducted.

- (Y) for D-I4.26 when using the sample collection log for review,
- (R) for D-I4.26R when the sample collection log is unavailable and a published report is used for review, and
- (T) for DI426T when only information previously entered in ERDB_PROD is used for review.

Note: Consult geologists, field samplers, and other field team members to clarify procedural aspects of sample collection.

6.2.6 For any “update,” enter the QC code “MANUAL” to specify that information based on a hardcopy review is the reason for the update.

6.2.7 Enter “OK” in the QC code field, if you agree with the current LUT value.

Note: This is done so that there is an indication that the value was reviewed and agreed with, versus never evaluated.

6.2.8 GET_SAMPLES is then queried by the DBA for record flag of Y, T, or R and updates the ERDB as appropriate per DI-4.9.

6.3 Field Information Guidance

Check the codes, flags, and types of information that are relevant in doing the check as indicated below.

6.3.1 Check Sample Technique Code

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log or field notebook—comments may list the personnel performing the sampling and the sampling equipment used.
- The Sample Collection Log—comments may list the personnel performing the sampling, the sampling equipment used, and the Standard Operating Procedure (SOP) followed.

Note: If the SOP is listed, the following table is helpful in determining which Sample Technique Code to assign.

Table 6.3-1, Sample Technique Codes

SOP NUMBER	HISTORIC SOP TITLE	SOP DATE	SAMPLE_TECH_CODE
SOP-06.01	Purging of Wells for Representative Sampling of Ground Water	03/05/02	BA (bailer), BP (bladder pump), RS (reciprocating piston submersible pump)
SOP-06.02	Field Analytical Measurements of Groundwater Samples	R4/29/2004	
SOP-06.03	Sampling for Volatile Organics	04/27/01	RS (reciprocating piston submersible pump), GSP (gear driven submersible pump), SYR (syringe sampler), BA (bailer)
SOP-06.09	Spade and Scoop method for Collection of Soil Samples	01/14/04	SS
SOP-06.10	Hand Auger and Thin-Wall Tube Sampler	10/14/04	HA
SOP-06.13	Surface Water Sampling	03/05/02	PP (peristalic pump), TD (transfer device for grab sample)
SOP-06.15	Coliwasa Sampler for Liquids and Slurries	R03/01/04	CS
SOP-06.19	Weighted Bottle Sampler for Liquids and Slurries in Tanks	R03/01/04	WB
SOP-06.24	Sample Collection from Split-Spoon Samplers and Shelby Tube Samplers	12/13/03	SP

SOP NUMBER	HISTORIC SOP TITLE	SOP DATE	SAMPLE_TECH_CODE
SOP-06.26	Core Barrel Sampling for Subsurface Earth Materials	01/14/04	CBS
SOP-06.29	Single-Stage Sampling for Surface Water Run-Off	03/30/04	SSS
SOP-06.31	Sampling of Subatmospheric Air	12/10/03	
SOP-06.32	Multi-Level Groundwater Sampling of Monitoring Wells - Westbay MP System	07/12/02	

- The hollow stem auger, “HAS,” and the core barrel sampler, “CBS,” are generally used in conjunction. Either designation may appear to indicate this sampling technique.
- If the Sample_Tech_Code is Null in ERDB_PROD and applicable information does not exist on the Sample Collection Log, a value of “UNK,” indicating that the code is unknown, is entered as a default. The following are exceptions to this statement:
  - The sampling technique for septic systems is entered as “TD,” transfer device for grab samples.
  - If the sampling technique for drum samples is not specified. “TD,” transfer device for grab samples, is entered.
  - When swipe samples of possibly contaminated sampling equipment are taken, the sampling technique is entered as “WW,” wipes.

6.3.2 Check Field Prep Code

Consult the following field documents when making decisions concerning this code:

- The Sample Collection Log comments may describe any field preparation of the sample, including filtering, sieving, or crushing.
- If the Field_Prep_Code is Null in ERDB_PROD and applicable information does not exist on the Sample Collection Log, a value of “NA,” indicating that the code is not applicable, is entered as a default. The following are exceptions to this statement:
  - Water samples are assumed to be unfiltered unless otherwise noted.

6.3.3 Check Field Matrix Code

Consult the following field documents in making decisions concerning this code:

- The Daily Activity Log comments may provide a physical description of the sample.
- The Sample Collection Log may list the matrix type under the labeling Sample Type. The comments section may provide a physical description of the sample.
- The Geological Log comments may provide a physical description of the sample.
- If the Field_Matrix_Code is Null in ERDB_PROD and applicable information does not exist on the Sample Collection Log, the Eval_Class_Code for the sample is used to determine the appropriate Field_Matrix_Code. This may be done record by record, or with global updates after Eval_Class_Code is checked.

6.3.4 Check Field QC Type Code

Consult the following field documents in making decisions concerning this code:

- The Sample Collection Log comments may provide a description of the type of QC. The QC types listed may include but are not limited to field blanks, field trip blanks, field duplicates, field rinsates, and performance evaluation samples.
- If the Field_QC_Type_Code is Null in ERDB_PROD and applicable information does not exist on the Sample Collection Log a value of “NA,” indicating that the code is not applicable to this sample, is entered as a default.

6.3.5 Check Sample Usage Code

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log comments may provide guidance on sample usage. This is especially true if a Health and Safety samples were required.
- The Sample Collection Log comments may provide guidance as to the purpose of the sample collection. Sample uses may be for, but are not limited to, an investigation, health and safety evaluation, QC evaluation, or a performance evaluation.
- To evaluate if a sample was used for screening purposes, only a review of its analytical data may provide insight.

6.3.6 Check Composite Type Code

Consult the following field documents when making decisions concerning this code:

- The Sample Collection Log lists information under Composite and Composite Type.
- If the Composite_Type_Code is Null in ERDB_PROD and applicable information does not exist on the Sample Collection Log a value of “NA,” indicating that the code is not applicable to this sample, is entered as a default.

6.3.7 Check Excavation Flag

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log comments may discuss any excavation performed that was needed to access the sampling site.
- The Geological Log comments may list any geographical conditions present that necessitated an excavation.
- If the Excavation_Flag is Null in ERDBPROD and applicable information does not exist on the Sample Collection Log or in reports, a value of “N,” is entered as a default for all samples. (Perform this record by record, or with a global update.)

6.3.8 Check Water Source Flow Flag

Consult the following field documents when making decisions concerning this code:

- The Daily Activity Log comments may describe sampling locations that indicate water flow, such as a stream, or lack of water flow, such as a well.
- The Sample Collection comments may describe the sample location characteristics.
- A “Y” flag indicates a sample represents water that is flowing at the time of collection, while a “N” flag indicates the sample represents water that was not flowing at the time of collection.
- Use a default of “N” when information is not available.

6.3.9 Check Eval Class Code

Consult the following field documents when making decisions concerning this code:

- The Geological Log or Borehole Log is the source of information for boreholes. For auger holes the information may be documented in either Geological or Borehole or Sample Collection Logs.

- If a log entry is available, check it against the value in ERDB_PROD and crosscheck against the Geological Model. If the values match, the entry is probably correct.
- If there is a Null value in ERDB_PROD, consult the log entry and the Geological Model and assign an appropriate value.
- If there is no log entry for comparison and there is a Null value in ERDB_PROD, consult the Geological Model for assignment of a value.
- If questions arise, consult a geologist for a professional judgment assignment.

6.3.10 Check Depth of Sample Field

Consult the following field documents when making decisions concerning this information:

- The Daily Activity Log may describe sampling depths.
- The Sample Collection Log lists sample depths under the category Depth of Sample.
- The Geological Log may provide depths for samples collected within logged intervals.
- If a depth value is not appropriate for the type of sample, enter zero for both the start and end depths and a value of "NA" for the unit of measure.

6.3.11 Check Reviewer Comments Field

A comments field was added to the database to provide referencing sources of information used to clarify or justify update form entries.

6.3.12 Check Specifics for Individual Datasets

Develop, if required, a list of "defaults" or decisions made in updating the records during the review of a specific dataset.

Note: This document is kept as a record for updates made so that one can understand the rationale for certain updates, and so that other reviewers of the dataset have the list available to ensure consistent updates.

6.3.13 Perform "Group-By" reviews to insure completeness and consistency of updated values.

7.0 RECORDS

This Desk Instruction generates no records.

8.0 TRAINING

All **users** of this DI are trained by reading the desk instruction; documentation of training is not necessary. The **supervisor** monitors the proper implementation of this procedure.

Using a token card, click here to record "self-study" training to this procedure.
If you do not possess a token card or encounter problems, contact the RRES-ECR training specialist.